

*Rectifying Processes*

N<sup>o</sup> 16,503



A.D. 1897

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Complete Specification Left, 6th Apr., 1898—Accepted, 9th July 1898

**DUPLICATE**

PROVISIONAL SPECIFICATION.

**Improved Process for the Rectification of Wines, Spirits and other Alcoholic Liquors.**

A communication from P. EMMANUEL PAULET, of Juignac, Charente, in the Republic of France.

I, ALFRED JULIUS BOULT, of 111, Hatton Garden, in the County of Middlesex, Chartered Patent Agent, do hereby declare the nature of this invention to be as follows:—

This invention relates to a new chemical process having for its object to rectify  
5 and to remove the unpleasant taste from alcohol, wine, spirit, rum, tafias and the like without at the same time depriving them—for instance wines—of their aroma and good qualities, and to render them purer and suitable for consumption and to obtain a greater proportion of good alcohol in commercial alcohol.

These results are attained by the employment of chlorine and oxygen com-  
10 pounds of chlorine.

Chlorine and hydrochlorous acid in a gaseous state or in solution are preferably used. One or the other is used according to the nature of the liquids to be treated according to whether phlegm or ready made spirit is treated, and also  
15 according to whether it is desired simply to disinfect or to modify the nature of the liquor by oxidising it.

The quantity employed varies according to the nature of the liquor treated and to the degree of disinfection to be obtained, this quantity is however, always very small.

Dated this 12th day of July 1897.

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BOULT & WADE,  
Agents for the Applicant.

COMPLETE SPECIFICATION.

**Improved Process for the Rectification of Wines, Spirits and other Alcoholic Liquors.**

25 A communication from PIERRE EMMANUEL PAULET, of Juignac, Charente, in the Republic of France.

I, ALFRED JULIUS BOULT, of 111, Hatton Garden, in the County of Middlesex, Chartered Patent Agent, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and  
30 ascertained in and by the following statement:—

This invention relates to a new chemical process having for its object to rectify

[Price 8d.]



*Improved Process for the Rectification of Wines, Spirits, and other Alcoholic Liquors.*

and to remove the unpleasant taste from alcohol, wine, spirit, tafias and the like, without at the same time depriving them—for instance wines—of their aroma and good qualities, and to render them purer and suitable for consumption, and to obtain a greater proportion of good alcohol from crude alcohol.

These results are attained by the employment of chlorine and oxygen compounds of chlorine. 5

Chlorine and hypochlorous acid in a gaseous state or in solution are preferably used. One or the other is used according to the nature of the liquids to be treated according to whether phlegma or residue, or ready made spirit is treated, and also according to whether it is desired simply to purify or to modify the nature 10 of the liquor by oxidising it.

Pure chlorine exercises both a rectifying and a disinfecting and purifying action on alcohol. It is preferably used in a liquid state, *i.e.* dissolved or absorbed in water. At a temperature of 8° C, a litre of water takes up three litres of chlorine weighing 3.167 grammes per litre, a litre of water will contain therefore about 15 nine grammes of chlorine. This liquid is added to or forced into the liquid to be rectified, the average proportion being about 10 litres per 100 hectolitres of alcohol. During the operation the latter is stirred, so as to cause the whole of the liquid to come quickly in contact with the chlorine.

Chemical reactions then take place, the most important among them being 20 the formation of hydrochloric acid. About half of the chlorine combines with the hydrogen of the alcohol or other bodies, to form hydrochloric acid, which remains in the alcohol and which is subsequently destroyed or neutralised by bases contained in the wood forming the staves of the barrel or receptacle.

But this quantity of hydrochloric acid is very small, since 25 grammes of 25 chlorine combined with 1 gr. of hydrogen form 36 grammes of hydrochloric acid, or less than half a gramme per 100 litres. The acid may however be neutralised by adding a little soda or alkali. The other part of the chlorine combines with the ammonia-bases contained in the alcohols, rums *etc.*

But whatever be the reactions the result is always that the taste of the alcohol 30 is improved, as all the unpleasant odours due to the soil in which the fruits or plants were grown disappear after the treatment.

The phlegmas, which are the residues of the distillation of wines, are distilled in their turn and produce spirit, these phlegmas being treated in the same way 35 before or after the distillation.

By using hypochlorous acid instead of pure chlorine, the chemical reactions are slightly different, owing to the alcohols being oxidised at the same time as the same reactions take place as with free chlorine. The result is that the alcohols besides being rectified, acquire the taste of old or matured alcohols.

The quantity employed varies according to the nature of the liquor treated 40 and to the degree of treatment desired, the quantity is however always very small.

Having now particularly described and ascertained the nature of the said invention as communicated to me by my foreign correspondent and in what manner the same is to be performed, I declare that what I claim is:—

1. In the rectification of alcohol and alcoholic liquor the use of chlorine or 45 oxygen-compounds of chlorine in a gaseous state or in solution.
2. The process of treating wines, spirits and other alcoholic liquors with chlorine substantially as described.

Dated this 6th day of April 1898.

BOULT & WADE, 50  
Agents for the Applicant.